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TECHNICAL REPORT

colour inside

Low-voltage surge protective devices – Part 03: SPD testing guide

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LOW-VOLTAGE SURGE PROTECTIVE DEVICES –

Part 03: SPD Testing Guide

FOREWORD

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IEC TR 61643-03 has been prepared by subcommittee 37A: Low-voltage Surge Protective Devices, of IEC technical committee 37: Surge Arrestors. It is a Technical Report.

The text of this Technical Report is based on the following documents:

Draft	Report on voting
37A/XX/DTR	37A/XX/RVDTR

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Report is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 61643, published under the general title Low-voltage surge protective devices, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

It has been assumed in the preparation of this document that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

Throughout this document, when the “IEC 61643-x1 series” is mentioned, it refers to all parts of the IEC 61643 series of standards that deal with testing of SPDs, e.g. IEC 61643-01, IEC 61643-11.

This part of the IEC 61643 series addresses correct test execution and accurate interpretation of measurement results and is also intended to further enhance repeatability and comparability throughout different test laboratories and to establish an acceptable accuracy level for the test results obtained.

The new SPD classification T1 SPD, T2 SPD and T3 SPD is relating to the former test class oriented classification Class I tests, Class II tests and Class III tests.

LOW-VOLTAGE SURGE PROTECTIVE DEVICES –

Part 03: SPD Testing Guide

1 Scope

This part of IEC 61643, which is a Technical Report, applies to SPD testing in accordance with the IEC 61643-x1 series and for SPD coordination and system level immunity purposes.

It aims to provide guidance and helpful information for correct test execution and accurate interpretation of measurement results. It is also intended to further enhance repeatability and comparability throughout different test laboratories and to establish an acceptable accuracy level for the test results obtained.

The main subjects are:

– Test application
– Test arrangement/setup
– Probe application
– SPD coordination testing
– System level immunity testing

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

For the purposes of this document the normative references given in IEC 61643-01:— [1] and the following apply.

IEC 61643-01:—, *Low-voltage surge protective devices – Part 01: General requirements and test methods*

IEC 61643-11:—[2], *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 61643-12:2020, *Low-voltage surge protective devices – Part 12: Surge protective devices connected to low-voltage power systems – Selection and application principles*

IEC 61643-41:—[3], *Low-voltage surge protective devices – Part 41: Surge protective devices connected to DC low-voltage power systems – Requirements and test methods*

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[1] Under preparation. Stage at the time of publication: IEC/ACDV 61643-01:2023.

[2] Under preparation. Stage at the time of publication: IEC/ACDV 61643-11:2023.

[3] Under preparation. Stage at the time of publication: IEC/ACDV 61643-41:2023.